

**UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/772,823  
Applicant : Mawson, Simon et al.  
Filed : 02/05/2004  
Art Unit : 1713  
Examiner : Cheung, William K.

Conformation No. 5967

Docket No. : 2000U042D1.CON2  
Customer No. : 25959

Date : February 24, 2005

**Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450**

**APPEAL BRIEF**

Sir:

This is an Appeal to the Board of Patent Appeals and Interferences from the Final Rejection mailed February 7, 2005.

**I. Real Party in Interest**

The Inventors' assignment, recorded at reel 011688, frame 0737, shows the assignee as Univation Technologies, LLC. This entity is the real party in interest.

**II. Related Appeals or Interferences**

Applicants are unaware of any related Appeals or Interferences.

03/01/2005 AWONDAF1 00000025 500589 10772823

02 FC:1402 500.00 DA

### **III. Status of the Claims**

Claims present in the above referenced case are 1-15. The claims as currently constituted are found in Section X. (Appendix) attached to this Brief.

### **IV. Status of the Amendments**

No amendment has been filed subsequent to the amendment filed under 37 CFR 1.116 on October 20, 2004, and entered by the Examiner.

### **V. Summary of the Invention**

The present invention is directed to a bimodal polyolefin comprising ethylene derived units and C<sub>4</sub> to C<sub>12</sub>  $\alpha$ -olefin derived units, the bimodal polyolefin characterized by having sieved neat polymer fractions obtained from 35, 60 and 120 mesh sieve sizes have I<sub>2</sub> values that are within 40% of one another; and further characterized in that the WPR (weight percent ration) of the polymer is greater than 10 and less than 30. The polyolefin possessing these features is an unprocessed, untreated granular product (thus not physically blended by, for example, a melt blend process). The bimodal polyolefin consists of at least two components as shown for example in the SEC data of Figure 5, a "low molecular weight component" and a "high molecular weight component". The homogeneity of the I<sub>2</sub> values is indicative of the homogeneity of the bimodal polyolefin claimed.

The high degree of homogeneity in the untreated granular bimodal polyolefins is advantageous. Products such as films that are formed from the bimodal polyolefins have few gels (spot imperfections) present, thus improving their appearance. Another advantage of being homogeneous is that products formed from the polyolefin have a strong resistance to cracking or breaking under stress. These advantageous features are outlined at, for example, pages 65-69 of the specification as filed.

In one embodiment, the bimodal polymer is made by combining two different catalyst components and at least one activator in at least one olefin polymerization reactor. These may be combined any number of ways such as, for example, is outlined in the specification as filed at page 43-45.

## **VI. Issues**

Whether US 5,317,036 to Brady, III et al. (*Brady*) inherently discloses each limitation of Claim 1 such that it anticipates the claims under 35 USC § 102(b) or renders the claims obvious under 35 USC § 103(a).

## **VII. Grouping of the Claims**

The claims 1-15 stand or fall together.

## **VIII. Argument**

The Examiner states that

in view of substantially identical monomeric compositions and substantially similar catalyst system between the claimed invention and the disclosure in Brady, III et al., the examiner has a reasonable basis to believe that the density, molecular weight properties of the polymers, the sieved neat polymer fraction obtained from specific mesh sieve sizes having a specific  $I_2$  values, WPR or bimodal polymers being claimed are inherently possessed by the disclosure to Brady, III et al.<sup>1</sup>

The Applicant contends that the standard for “inherency” is not one of having “a reasonable basis to believe” that the claim limitations are “inherently possessed” by a disclosure. The accepted standard is outlined in the MPEP § 2112, which states in part that

---

<sup>1</sup> See, for example, Final Office Action dated February 7, 2005, at page 3.

To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’<sup>2</sup>

The MPEP establishes that the Examiner must provide “extrinsic evidence” that makes clear that the missing feature(s) are “necessarily present”. The Examiner has made no such case.

In the rejection of Applicant’s claims as inherent in light of *Brady*, the Examiner cites *In re Best*.<sup>3</sup> In *In re Best*, the court outlined a technical rational derived from specific information disclosed in the prior art in order to find inherency.<sup>4</sup> In that case, it was found that the prior art (“Hansford”) had particularly disclosed each claim element of the subject patent application (“*Best*” application), except for the rate of cooling of the composition after having been heated and the removal of an otherwise volatile species generated from the claimed process. In upholding the rejection of the *Best* application, the court outlined the Examiner’s rational

The examiner asserted that a major portion of any ammonia generated during calcination would inherently be removed from contact with the zeolite, because the gaseous atmosphere disclosed by Hansford was in the form of a moving stream.<sup>5</sup>

Thus, the Examiner in the *Best* application demonstrated, using an objective technical rational, how a particular claim element was disclosed by, and necessarily flows from, the

---

<sup>2</sup> *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 50-51 (Fed. Cir. 1999). (citations omitted) (emphasis added).

<sup>3</sup> 562 F.2d 1252, 195 USPQ 430 (CCPA 1997).

<sup>4</sup> *In re Best* at 1253-54. Specifically, the court outlined the Examiner’s rational: “In rejecting claims 1-7 on Hansford, the examiner asserted that a major portion of any ammonia generated during calcination would inherently be removed from contact with the zeolite, because the gaseous atmosphere disclosed by Hansford was in the form of a moving stream. Also with respect to Hansford, the examiner believed the cooling rate of the zeolite after stabilization to be within the terms of the appealed process claims. The claimed product being the unique result of the claimed process, the examiner, therefore, rejected both process and product claims as anticipated by Hansford, or, in any case, as obvious in view of Hansford.”

Hansford disclosure. The Applicant contends that the Examiner has not done so in the present case.

In the present case, the Examiner is inferring all but one (“ethylene derived units and C<sub>4</sub> to C<sub>12</sub>  $\alpha$ -olefin derived units”) of the limitations in Claim 1 from *Brady*.<sup>6</sup> And even that one limitation cited by the Examiner is a modifier for “bimodal polyolefin” which is not explicitly or inherently disclosed in *Brady*. The opposite was true in *Best*, where the Examiner found explicit disclosures for each claim element of the claim at issue except for one element.

The Examiner has not explained how *Brady* discloses the “bimodal polyolefin” currently being claimed, nor any of its distinguishing properties as claimed. Applicant contends that it is unprecedented for the Examiner to rely upon the possibility that

even for a single catalyst system [as disclosed in *Brady*], during polymerization, a single catalyst can undergo unpredictable changes in chemical composition or in the morphology make up of the catalyst that would lead to unexpected modality in the final polyolefin product.<sup>7</sup>

For this statement to shift the burden of proof to the Applicant, the Examiner must present objective evidence that such “unpredictable changes in chemical composition” necessarily take place. Here, the Examiner is impermissibly stating that such an outcome *may* occur.

In the Final Rejection, the Examiner states that

it is up to the applicants to provide evidence that the polymer products of Brady, III et al. is indeed different from the process for preparing the claimed polymers.<sup>8</sup>

---

<sup>5</sup> *In re Best* at 1253-54.

<sup>6</sup> See First Office Action dated September 9, 2004.

<sup>7</sup> See Final Rejection dated February 7, 2005, at page 4. (emphasis added)

<sup>8</sup> *Id.* at page 6.

Applicant is not claiming a "process for preparing" polymers, but a polymer composition. Thus, the Applicant is not in a position to fulfill such a request. Further, unless extrinsic evidence of inherency is elucidated by the Examiner, there is no shifting of the burden back to the Applicant.

The Examiner here has not elucidated with extrinsic evidence a valid rational for inherency but has instead impermissibly relied upon "a reasonable basis to believe" that the claim limitations at issue are inherently disclosed. This contravenes the MPEP § 2112 standard holding that the Examiner cannot rely upon "[t]he mere fact that a certain thing may result from a given set of circumstances".<sup>9</sup> The Examiner must go further and show that the Claim limitation at issue "necessarily" follows from *Brady*. That has not been done in the present case.

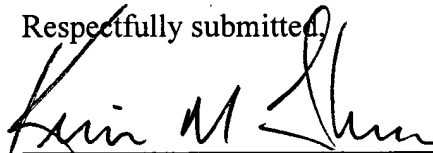
#### IX. In Conclusion

Given that *Brady* does not disclose all the features of Claim 1, either explicitly or inherently, the Claims are not anticipated or obvious; and Applicant thus urges the reversal of all claim rejections.

Date

2/24/05

Respectfully submitted,



Kevin M. Faulkner  
Attorney for Applicants  
Registration No. 45,427

**Univation Technologies, LLC**  
5555 San Felipe, Suite 1950  
Houston, Texas 77056-2723  
Phone: 713-892-3729  
Fax: 713-892-3687

---

<sup>9</sup> MPEP § 2112.

## **X. Appendix**

1. A neat polymer comprising a unprocessed, untreated granular bimodal polyolefin comprising ethylene derived units and at least one comonomer unit selected from the group consisting of C<sub>4</sub> to C<sub>12</sub>  $\alpha$ -olefin derived units; wherein sieved neat polymer fractions obtained from 35, 60 and 120 mesh sieve sizes have I<sub>2</sub> values that are within 40% of one another; characterized in that the WPR of the polymer is greater than 10 and less than 30.
2. The neat polymer of Claim 1, wherein the I<sub>2</sub> values of the polymer fractions are within 30% of one another.
3. The neat polymer of Claim 1, wherein the I<sub>2</sub> values of the polymer fractions are within 10% of one another.
4. The neat polymer of Claim 1, wherein the I<sub>2</sub> values of the polymer fractions are within 6% of one another.
5. The neat polymer of Claim 1, wherein the I<sub>2</sub> values of the polymer fractions are within 4% of one another.
6. The neat polymer of Claim 1, wherein sieved neat polymer fractions obtained from 18, 35, 60 and 120 mesh sieve sizes comprise greater than 90 % of the total weight of the neat polymer.
7. The neat polymer of Claim 1, further possessing an Mw/Mn value of from 1.5 to 70.

8. The neat polymer of Claim 1, wherein the Mw/Mn values of sieved neat polymer fractions obtained from 18, 35, 60 and 120 mesh sieve sizes do not vary by more than 20 % relative to one another.
9. The neat polymer of Claim 1, wherein the Mw/Mn values of sieved neat polymer fractions obtained from 18, 35, 60 and 120 mesh sieve sizes do not vary by more than 10 % relative to one another.
10. The neat polymer of Claim 1, wherein the unprocessed, untreated granular bimodal polyolefin possesses a density of from 0.930 to 0.965 g/cc.
11. The neat polymer of Claim 1, wherein the unprocessed, untreated granular bimodal polyolefin possesses a density of from 0.910 to 0.940 g/cc.
12. The neat polymer of Claim 10, wherein the unprocessed, untreated granular bimodal polyolefin further possesses a  $I_{21}$  value of from 4 to 12 g/10 min.
13. The neat polymer of Claim 10, wherein the unprocessed, untreated granular bimodal polyolefin can be extruded at a rate of from greater than 17 lbs/hour/inch of die circumference.
14. The neat polymer of Claim 1, wherein the neat polymer is produced in a single gas phase reactor.
15. The neat polymer of Claim 14 formed by the process of combining a catalyst component slurry continuously with a catalyst component solution, followed by contacting with ethylene and  $\alpha$ -olefins in a gas phase fluidized bed reactor; the slurry comprising an activator supported on a support material.